Exhibit 300: Capital Asset Summary

Part I: Summary Information And Justification (All Capital Assets)

Section A: Overview & Summary Information

Date Investment First Submitted: 2009-06-30
Date of Last Change to Activities: 2012-03-27
Investment Auto Submission Date: 2012-02-24
Date of Last Investment Detail Update: 2012-07-25
Date of Last Exhibit 300A Update: 2012-07-25
Date of Last Revision: 2012-07-25

Agency: 026 - National Aeronautics and Space Administration **Bureau:** 00 - Agency-Wide Activity

Investment Part Code: 01

Investment Category: 00 - Agency Investments

1. Name of this Investment: JSC DA Mission Control Center Systems (MCCS)

2. Unique Investment Identifier (UII): 026-000005020

Section B: Investment Detail

1. **Provide a brief summary of the investment, including a brief description of the related benefit to the mission delivery and management support areas, and the primary beneficiary(ies) of the investment. Include an explanation of any dependencies between this investment and other investments.**

The Mission Control Center Systems (MCCS) investment is a web of subsystems operating in concert to provide a world class command and control facility. It is the focal point for real-time management and operational support of NASA's Human Spaceflight program. This investment supports continuous International Space Station (ISS) operations including support to visiting vehicles, Space Station simulations and training, and vehicle testing support. The MCCS also provides communications services for the Space Station program and to other NASA centers and International Partners. Under the multi-year Mission Control Center for the 21st Century (MCC-21) project, the MCCS will be modified to support a broader array of space flight operations and mission classes, human precursor, robotic, and human-robotic missions. These missions include near-Earth objects, lunar activities, science utilization of the ISS, as well as commercial crew and cargo missions to the ISS. A primary objective of MCC-21 is to introduce more secure, robust, and cost effective support while lowering maintenance and sustaining costs through aggressive integration of new technologies and consolidation of facility operations and management. The primary beneficiaries of the MCCS are the Space Station program, International Partners, other NASA centers, commercial carriers, flight controllers, astronauts, private industry operators, the science community, future human missions, and future robotic missions. The MCCS is dependent upon the JSC's Flight Operations User Applications investment for the software

applications that drive the MCC hardware platforms, White Sands for the space-to-ground communications link, the Department of Defense for debris avoidance data, and Goddard's Flight Dynamics Facility for trajectory vectors and vehicle location. Investments that depend upon the MCCS include JSC's Flight Operations User Applications investment which utilizes MCCS platforms, Space Station Training Facility which integrates training simulations with the MCCS, and Marshall Space Flight Center's Payload Operations and Integration Center (POIC) which utilizes the MCCS to transfer payload procedures to the crew. Mr. Macha has overall PM responsibility for the MCCS under the Facilities Development and Operations Contract (FDOC). His involvement with these facilities occurs on a regular basis.

2. **How does this investment close in part or in whole any identified performance gap in support of the mission delivery and management support areas? Include an assessment of the program impact if this investment isn't fully funded.**

This investment does not close any performance gaps. The MCCS provides the primary means of controlling the US segment of the International Space Station. It also provides a communications network which is responsible for all communication between the ground controllers, all communications with the crew, and all other support staff located at sites around the globe. Without the MCCS or its functionality, NASA would be unable to support the International Space Station and any future human spaceflight programs.

3. **Provide a list of this investment's accomplishments in the prior year (PY), including projects or useful components/project segments completed, new functionality added, or operational efficiency achieved.**

In FY12, the MCCS supported 63 ISS mission-related activities, 200 integrated training activities, and over 600 tests and other activities. MCCS also successfully participated in the first commercial spacecraft rendezvous with the orbiting ISS. It supported the SpaceX Dragon mission by providing command, video, voice loops, and telemetry services. In addition, progress was made toward MCC-21 with the construction of development and integration and test environments. All performance goals set for this investment were successfully achieved. There were no performance deficiencies requiring corrective action.

4. **Provide a list of planned accomplishments for current year (CY) and budget year (BY).**

The MCCS will continue providing support to the ISS and visiting vehicles. Additionally, it will support the first resupply missions by commercial spacecrafts SpaceX/Dragon and Orbital Sciences/Cygnus. Progress toward the implementation of MCC21 occurs in FY13 when the first modifications to the operations infrastructure will take place. Legacy systems such as the Integrated Planning System (IPS) and ISS MOD Avionics Reconfiguration Subsystem (IMARS) will move into their new homes. In FY14, the MCC21 operational readiness tests take place and ISS transition to MCC21 will commence.

5. **Provide the date of the Charter establishing the required Integrated Program Team (IPT) for this investment. An IPT must always include, but is not limited to: a qualified fully-dedicated IT program manager, a contract specialist, an information technology specialist, a security specialist and a business process owner before OMB will approve**

this program investment budget. IT Program Manager, Business Process Owner and Contract Specialist must be Government Employees.

2009-01-01

Section C: Summary of Funding (Budget Authority for Capital Assets)

1.

Table I.C.1 Summary of Funding

	PY-1 & Prior	PY 2011	CY 2012	BY 2013
Planning Costs:	$0.0	$0.0	$0.0	$0.0
DME (Excluding Planning) Costs:	$17.9	$0.0	$0.0	$0.0
DME (Including Planning) Govt. FTEs:	$0.0	$0.0	$0.0	$0.0
Sub-Total DME (Including Govt. FTE):	$17.9	0	0	0
O & M Costs:	$127.8	$98.2	$80.5	$83.0
O & M Govt. FTEs:	$7.2	$3.7	$3.8	$4.0
Sub-Total O & M Costs (Including Govt. FTE):	$135.0	$101.9	$84.3	$87.0
Total Cost (Including Govt. FTE):	$152.9	$101.9	$84.3	$87.0
Total Govt. FTE costs:	$7.2	$3.7	$3.8	$4.0
# of FTE rep by costs:	49	24	24	24
Total change from prior year final President's Budget ($)		$8.4	$23.8	
Total change from prior year final President's Budget (%)		8.98%	39.18%	

2. If the funding levels have changed from the FY 2012 President's Budget request for PY or CY, briefly explain those changes:

The funding needs of the investments have not changed. The figures submitted in the FY12 President's Budget Request reflect the budget uncertainties resulting from the cancellation of the Constellation (Cx) Program. Since then, the funding deficit created by the program's cancellation has been resolved.

Section D: Acquisition/Contract Strategy (All Capital Assets)

Table I.D.1 Contracts and Acquisition Strategy

Contract Type	EVM Required	Contracting Agency ID	Procurement Instrument Identifier (PIID)	Indefinite Delivery Vehicle (IDV) Reference ID	IDV Agency ID	Solicitation ID	Ultimate Contract Value ($M)	Type	PBSA ?	Effective Date	Actual or Expected End Date
Awarded		NNJ09HD46C									

2. If earned value is not required or will not be a contract requirement for any of the contracts or task orders above, explain why:
N/A. Earned Value is a contract requirement.

Exhibit 300B: Performance Measurement Report

Section A: General Information

Date of Last Change to Activities: 2012-03-27

Section B: Project Execution Data

Table II.B.1 Projects

Project ID	Project Name	Project Description	Project Start Date	Project Completion Date	Project Lifecycle Cost ($M)
61711	FY11 O&M	FY11 contractor maintenance, operations, sustaining, and modification engineering.			

Activity Summary

Roll-up of Information Provided in Lowest Level Child Activities

Project ID	Name	Total Cost of Project Activities ($M)	End Point Schedule Variance (in days)	End Point Schedule Variance (%)	Cost Variance ($M)	Cost Variance (%)	Total Planned Cost ($M)	Count of Activities
61711	FY11 O&M							

Key Deliverables

Project Name	Activity Name	Description	Planned Completion Date	Projected Completion Date	Actual Completion Date	Duration (in days)	Schedule Variance (in days)	Schedule Variance (%)
NONE								

Section C: Operational Data

Table II.C.1 Performance Metrics

Metric Description	Unit of Measure	FEA Performance Measurement Category Mapping	Measurement Condition	Baseline	Target for PY	Actual for PY	Target for CY	Reporting Frequency
Anomaly Density. Software errors are reported via anomaly reports (ARs). Anomaly density is calculated by dividing the number of outstanding ARs by the number of executable lines of software code (1 AR per 5 thousand lines of code = .2).	Percent	Technology - Information and Data	Under target	0.200000	0.130000	0.138000	0.200000	Monthly
Design Review & Analysis. Customers submit requests for modifications via Support Requests (SR). SRs are assigned to systems engineers who complete design reviews and analyze initial cost impact. Reviews and analysis of approved modifications should be completed within 8 weeks. This metric represents how frequently this is achieved. It is calculated by dividing the number of SRs meeting the criteria by the total number of SRs received.	Percent	Technology - Efficiency	Over target	95.000000	95.000000	100.000000	95.000000	Quarterly
Delivery of Flight P1 SRs. Customers	Percent	Customer Results - Timeliness and	Over target	95.000000	95.000000	100.000000	95.000000	Quarterly

Table II.C.1 Performance Metrics								
Metric Description	Unit of Measure	FEA Performance Measurement Category Mapping	Measurement Condition	Baseline	Target for PY	Actual for PY	Target for CY	Reporting Frequency
submit service requests via an SR. The performing org reviews available resources and assigns a target date for completion. This completion date is called Release to Operations (RTO). This metric represents the percentage of highest priority SRs (Flight-related, Priority 1) completed on or before the RTO date. It is calculated by dividing the number of SR deliveries meeting the specified date by the total number of SR deliveries made.		Responsiveness						
Customer Satisfaction. Customers who submit SRs are asked to complete satisfaction surveys upon completion of the SR. The responses can be favorable, unfavorable, or neutral. This metric represents the percentage of favorable and neutral responses received. It is calculated by dividing the sum of favorable and neutral	Percent	Customer Results - Customer Benefit	Over target	95.000000	95.000000	100.000000	97.000000	Quarterly

Table II.C.1 Performance Metrics

Metric Description	Unit of Measure	FEA Performance Measurement Category Mapping	Measurement Condition	Baseline	Target for PY	Actual for PY	Target for CY	Reporting Frequency
responses by the total responses received.								
System Availability. This metric measures MCCS critical services availability. This metric is calculated by dividing the amount of operational time by the total time during the period, less scheduled outages.	Percent	Technology - Reliability and Availability	Over target	98.000000	99.500000	99.932000	99.000000	Quarterly
Delivery of Non-Flight P1 SRs. Customers submit service requests via an SR. The performing org reviews available resources and assigns a target date for completion. This completion date is called Release to Operations (RTO). This metric represents the percentage of high priority SRs (Non-Flight related, Priority 1) completed on or before the RTO date. It is calculated by dividing the number of SR deliveries meeting the specified date by the total number of SR deliveries made.	Percent	Customer Results - Timeliness and Responsiveness	Over target	95.000000	95.000000	98.453000	95.000000	Quarterly